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Cytotoxic and antibacterial activities of marine sponge-derived fungus aspergillus nomius NC06 (Article) (Open Access)

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Abstract

Sponge-derived fungi have attracted recent attention due to its important source of interesting biologically active compounds. In our previous study, we have obtained 13 fungi from marine sponge Neopetrsiachaliniformis. Among them, only Aspergillus nomius NC06 showed cytotoxic activity with the percentage of viability113.9 % and 70.31 % of Vero cell and WiDr colon cancer cell, respectively. This study aimed to isolate the cytotoxic compound from the ethyl acetate extract of N. nomius NC06 using chromatography method. A total of 5 fractions of the extract obtained using vacuum liquid chromatography. These fractions were tested against HCT 116 colon cancer cell and ten human pathogenic bacteria. Fraction II, III, IV, and V showed cytotoxic activity with IC_{50} of 5.28, 15.82, 10.27, and 45.57 µg/mL, respectively. In antibacterial testing, fraction II and III were potential because of their ability to inhibit the growth of ten pathogenic bacteria with the diameter of inhibition zone more than 12 mm.

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